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The Brain of an Entrepreneur

As science unlocks more and more of your brain's secrets, learn how harnessing the power of your greatest asset can create a more productive, more persuasive, more competitive business.

By Mark Henricks | [Entrepreneur Magazine](#) - January 2006

URL: <http://www.entrepreneur.com/management/leadership/learningtolead/article81660.html>

The sun rises as you leave work and head for an early breakfast. You smile cheerfully at the server and decline coffee. While waiting for your food, you glance through a business magazine and mentally file several items for further thought later on. You and your sales and marketing vice presidents have just pulled an all-nighter preparing a presentation, and the client meeting is in two hours. It's a new prospect and a new market, and none of you had heard of either before yesterday. But you feel relaxed, alert and confident that if the business can be won, you and your team will win it.

Can this story be true? After staying up for 24 hours, you should be sleepy, jittery, irritable and anxious for more caffeine to add to the buckets you've already gulped. You should have trouble reading, much less memorizing pages of text. Your employees should feel the same. And you should never count on any marketing effort to work, especially one with less than a day's worth of preparation behind it.

But this story *can* be true. All you have to do is take note of recent strides in understanding how our brains control sleep, learning, memory and other functions, and--even more important--how we can improve these faculties. Improved brain imaging has opened windows into how we learn, remember, recover and rest. Coupled with new insights into the genetic underpinnings of brain development as well as new products in neuropharmacology--brain drugs--it is a revolution in brain management.

Before long, staying awake for extended periods while effortlessly learning new material and remembering large chunks of information may seem normal for entrepreneurs and their employees. We--as well as some of our competitors, unfortunately--may have new ways of marketing to prospects and customers that make our efforts more effective than anyone had dreamed of before. Our brains may go from being our biggest constraints to being our biggest competitive advantages.

The Origins of New Brain Science

By now, everybody's heard of the antidepressant Prozac and other new drugs and supplements that tinker with brain workings. Many of us have had MRI scans of our body parts, if not of our brains. Some of us have heard of neuromarketing, which aims to craft marketing efforts that overcome obstacles and exploit loopholes built into our brains.

What may have been missed, though, is the fact that Prozac's latest successors are the leading edge of a new wave of drugs and supplements that do far more than lift blue moods. They actually improve memory, ease learning and banish sleep. Neuroscientists use MRIs and related scanning technologies to discern areas of activity in the brains of people doing such things as recalling recent memories. That reveals how specific brain structures are used in different tasks. And neuromarketing, while doubtless containing some hype, may well be the revolution its proponents promise.

Brains, in short, are hot. One reason is that Congress declared the 1990s the "Decade of the Brain," and pumped tens of billions of dollars into brain research. That generated advances now beginning to bear fruit. Annual federal neuroscience funding still tops \$4 billion. And private sources including VCs are getting into the act, funding startups to commercialize drugs and procedures for modifying our brains and the way they work.

[Joel Garreau](#), an editor and reporter at *The Washington Post* and author of [Radical Evolution](#), a new book about applying technological advances to human bodies and brains, says the turning point came when we began directing our curiosity inward, rather than outward. "Now, for the first time," says Garreau, "our technologies are going through a wholesale process of being aimed inward, modifying our minds, memories, metabolism, personalities and what it means to be human."

There may be something special about entrepreneurs' brains. Many have a condition called attention-deficit disorder, or ADD. "There's a very high incidence of ADD among CEOs in small companies," says Daniel G. Amen, M.D., a brain researcher and director of Amen Clinics Inc., a group of four brain-imaging centers in the U.S. "These are people who take risks, need people to help them stay organized, don't like working for other people, have a lot of energy and are good at multitasking."

Eventually, even the most finely tuned entrepreneurial brain runs up against human limits. Take sleep. Most people who use caffeine to try to stay awake for long periods find it makes them jittery and anxious, and interferes with concentration. The same goes for prescription stimulants such as amphetamines.

But new anti-sleep drugs dispense with side effects and actually allow you to focus better. Modafinil, for example, was developed for patients with narcolepsy. When healthy people take it, they can stay awake 80 hours or more without losing focus or concentration. "If you can stay awake with your cognitive functions thriving for a week, think of what that does," says Garreau. "Imagine lawyers with photographic memories who never sleep."

Better memory may come from other drugs. Tim Tully is a scientist who studied the gene that controls memory and learning in fruit flies. Helicon Therapeutics, a Farmingdale, New York, company he founded in 1997, has developed a drug, now in trials, that may help humans learn faster and remember better. When given to mice with age-related memory problems similar to those that older humans experience, the drug, HT-0712, works well. "Old mice, roughly 50 years in human equivalents, have the memory capacity of young mice, roughly 25 years in human equivalents," says Tully. "And the potential is there to enhance memory for all of us."

The Employee Brain

Entrepreneurs can also improve employees' memory, alertness and concentration by making work a brain-enriching place to be. Amen recommends offering employees opportunities to educate themselves, including cross training for other functions in the company as well as learning that goes beyond work. "A learning brain," he says, "is a happy brain."

A brain listening to music is also a happy brain, and one that enhances learning. University of California, Irvine, researchers found that people who listened to Mozart before taking a pattern-recognition test improved their scores 62 percent after two days of practice. Those who spent the time in silence improved just 14 percent.

While piping in Mozart may not be all that practical at the office, removing brain-damaging elements is imperative. Be alert, especially for toxic chemicals. "I can't tell you how many indoor painters and cabinet refinishers we have looked at, and their brains look terrible," Amen says. "Make sure there is good ventilation if [people are] going to work around toxic materials."

Pay attention to workplace food and drink, too. "We kill people's brains by bringing in doughnuts," says Amen. "I have a policy in my office that people are not to have candy dishes on their desks. People eat it, get blood sugar spikes and crashes, and then they're stupid." He also recommends against workplace coffeepots, because caffeine interrupts brain blood flow and impairs sleep.

Stress from overwork also affects sleep, and experts say fewer than six to eight hours of sleep daily over the long haul is bad for brains. "Chronic stress kills the memory area of the brain," Amen says.

Encourage physical exercise, which increases brain blood flow and reduces stress. You might even sponsor meditation classes, suggests Martha Farah, director of the Center for Cognitive Neuroscience at the University of Pennsylvania in Philadelphia. Says Farah, "Meditation and mindfulness programs have been shown to enhance brain function."

No brain research has spurred as much business interest as the studies of marketing and brains. The hope is that we'll learn to market in ways far more effective than anything anyone has come up with yet. Early results are promising.

A couple of studies did MRIs on people exposed to celebrity faces and brand images. One found Coca-Cola's logo triggered impulses in the midbrain, an area that sits between the primitive hindbrain and the more developed forebrain. A Pepsi logo didn't have the same effect. The study suggests a brand's image can drive behavior in a way that neither instinct nor conscious thought controls.

These and other findings are being translated into practice by Patrick Renvoise, co-founder and president of SalesBrain LLC in San Francisco. Renvoise, co-author with his business partner, Christophe Morin, of [Neuromarketing: Is There a "Buy Button" Inside the Brain?](#), says we should rethink marketing to reflect current brain understanding. To start with, marketing should be more visual and less verbal.

Areas of the brain controlling vision are much older than those for language, Renvoise says. That has implications for anyone attempting to influence decision makers. "A lot of entrepreneurs talk about their benefit or solution and don't use a strong visual metaphor," says Renvoise. "And it's very hard to convince people using words when their organ of decision is primarily visual."

In addition to strong visuals, marketers should present their solution in sharp contrast to other options. To Renvoise, brain research says too many entrepreneurs rely on "me, too" marketing slogans such as "We are a leading provider..." when they should be finding ways to say "We are the only provider..." It's a critical distinction. "Without contrast," he says, "the brain cannot make a decision."

It's also important to tell the truth, because customers' brains are better at detecting untruths than even they know. Renvoise's book reports on one neuroscientist who had people play games with decks of cards rigged to produce unfair results. Players were occasionally asked whether the games seemed fair. After a number of rounds, players started reporting the decks were stacked. But skin-conductance tests revealed that they became nervous when reaching for rigged decks well before the knowledge reached their conscious minds.

Another study Renvoise quotes asked people to accept money for placing a large billboard in their front yards. The success rate was more than seven times higher if the homeowners had first agreed to display a much smaller postcard in a window. The moral: Don't underestimate the power of starting small.

Brain Boundaries

Brain understanding appears to open up limitless possibility. Brain-based business, however, has costs, limits and risks like everything else. For instance, Amen says pre-employment screening using brain scans will likely become common practice in several years. But at the current price of \$1,000 per MRI scan, these tools will be used only by wealthy companies filling high-value positions. Brain drugs aren't free, either. Modafinil costs about \$3 a dose, and newer drugs are likely to cost more.

Similarly, neuromarketing may not match promoters' claims. "There's only one area of real importance," says John Philip Jones, a professor of advertising at Syracuse University in New York. "It destroys the supposed differentiation between rational and emotional advertising." To Jones, brain studies suggest that most ads need emotional appeal to get people to pay attention long enough to get in the rational selling proposition. "That's the key thing, and there's nothing more to it than that," he says.

There are also side effects. Modafinil apparently has few-except that it allows people to do without sleep. And doing without sleep, while a major short-term productivity booster when you're facing a crunch, is ultimately bad for the brain when engaged in long-term. "Sleep deprivation is a real trap for the ambitious," warns Farah. "You might think the extra hours on the job are helping, but in many ways, you'd work smarter if you were rested."

While it may be possible to change your brain, it's not inevitable, says David Weiner, an entrepreneur and science writer who authored [Reality Check: What Your Mind Knows But Isn't Telling You](#). Weiner says practices such as thinking positive thoughts will actually change brain structures, but not without a lot of repetition. He says, "Your brain is stubborn and doesn't change easily."

Brain Futures

The idea of fielding a work force equipped with enhanced memory, never needing to sleep and able to learn any subject quickly and easily, may sound like utopia, but brain boosting probably won't create super-employees or super-entrepreneurs. Nor will just anybody be an entrepreneur.

Thomas Harrison is a cellular biologist as well as CEO of Diversified Agency Services and author of [Instinct: Tapping Your Entrepreneurial DNA to Achieve Your Business Goals](#), in which he shows how highly successful people use genetic advantages to overcome their own weaknesses and exploit competitors'.

At bottom, Harrison says, we are who we are. While we can change much about ourselves, we can't change everything. He says, "You have to be genetically inclined to do what you want to do."

Mark Henricks is Entrepreneur's "Staff Smarts" columnist.